

## STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

Lab ID: K00003058

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

**Billing Code:** 

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Apalytical Supervisor

K00003058001

**Project Name:** 

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA Ash Spill

Emory River mile 12.1

**Project Site No.:** 

Station No.:

EMORY012.1RO

Date/Time Collected: Sampler's Name:

10/29/2009 09:09 Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:** 

TDEC-WPC 327.34-20 TDEC-WPC TDEC-WPC

Send Report To: **Agency Invoiced: Priority Date:** 

11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH: 7.77

Chlorine, residual:

Conductivity: 131

Temperature: 13.48

Dissolved Oxygen: 11.68

Other:

**CFS** Flow:

pH Units

uMHO

mg/L

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY: DATE					DATÉ
Digestion Metals	10/30/2009				M Pattanayek	10/30/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY: DATE					
Iron	170	μg/L	2.9	10	A Wilson	11/2/2009

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	69	μg/L	6.4	10	M Pattanayek	10/30/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/30/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/30/2009
Barium	26	μg/L	2.5	5	M Pattanayek	10/30/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/30/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/30/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/30/2009
Cobalt	0.25J	μg/L	0.04	1	M Pattanayek	10/30/2009
Copper	U	μg/L	0.38	1	M Pattanayek	10/30/2009
Lead	0.11J	μg/L	0.10	1	M Pattanayek	10/30/2009
Manganese	68	μg/L	0.42	1	M Pattanayek	10/30/2009
Nickel	1.3	μg/L	0.25	1	M Pattanayek	10/30/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/30/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/30/2009
Thallium	0.11J	μg/L	0.03	1	M Pattanayek	10/30/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/30/2009
Zinc	2.3J	μg/L	1.9	5	M Pattanayek	10/30/2009

K00003058001

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

**Station No.:** 

EMORY012.1RO

Date/Time Collected:

10/29/2009 09:09

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:** Send Report To:

TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009

12:00

Received By:

**TEST: Mercury** 

E McCrary

METHO	D: EPA	245.1
141E 11101	J. L. A	A-TU. I

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	ua/L	0.029	0.2	A Bass	11/3/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

pH: 7.77

pH Units

Chlorine, residual:

Conductivity:

131

uMHO

Temperature: 13.48

Dissolved Oxygen: 11.68

mg/L

Other:

Flow:

K00003058002

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.: EMORY002.1RO

Date/Time Collected: Sampler's Name:

10/29/2009 09:58

County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-WPC 327.34-20

Billing Code: Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

**Priority Date:** 

E McCrary

**Field Determinations** 

pH:

7.22

pH Units

uMHO

Chlorine, residual:

Conductivity:

56 13.03

Temperature: **Dissolved Oxygen: 11.18** 

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/30/2009				M Pattanayek	10/30/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	220	μg/L	2.9	10	A Wilson	11/2/2009

TEST: ICP-MS	MET	ΓHOD: EPA 20	200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Aluminum	110	μg/L	6.4	10	M Pattanayek	10/30/2009	
Antimony	U	μg/L	0.33	1	M Pattanayek	10/30/2009	
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/30/2009	
Barium	27	μg/L	2.5	5	M Pattanayek	10/30/2009	
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/30/2009	
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/30/2009	
Chromium	· U	μg/L	2.0	5	M Pattanayek	10/30/2009	
Cobalt	0.22J	μg/L	0.04	1	M Pattanayek	10/30/2009	
Copper	0.74J	μg/L	0.38	1	M Pattanayek	10/30/2009	
Lead	0.89J	μg/L	0.10	1	M Pattanayek	10/30/2009	
Manganese	65	μg/L	0.42	1	M Pattanayek	10/30/2009	
Nickel	15	μg/L	0.25	1	M Pattanayek	10/30/2009	
Selenium	U	μg/L	1.3	5	M Pattanayek	10/30/2009	
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/30/2009	
Thallium	0.07J	μg/L	0.03	1	M Pattanayek	10/30/2009	
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/30/2009	
Zinc	38	μg/L	1.9	5	M Pattanayek	10/30/2009	

K00003058002

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

**Station No.:** 

EMORY002.1RO

Date/Time Collected:

10/29/2009 09:58

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency:

Knoxville TDEC-WPC 327.34-20

Billing Code: Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** 

11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.22

pH Units

Chlorine, residual:

Conductivity:

56

uMHO

Temperature: **Dissolved Oxygen: 11.18** 

13.03

mg/L

Other:

Flow:

**CFS** 

TEST: Mercury	ME	ΓHOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	11/3/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00003058003

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

2B

Station No.: **Date/Time Collected:**  EMORY001.9RO

Sampler's Name:

10/29/2009 10:14

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO: Sampling Agency: Water Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.13

pH Units

Chlorine, residual:

Conductivity:

56

**uMHO** 

Temperature:

12.86

**Dissolved Oxygen: 10.72** 

mg/L

Other: Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/30/2009				M Pattanayek	10/30/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY: [					
Iron	310	μg/L	2.9	10	A Wilson	11/2/2009

TEST: ICP-MS	ME <sup>-</sup>	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	290	 μg/L	6.4	10	M Pattanayek	10/30/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/30/2009
Arsenic	2.4J	μg/L	0.93	5	M Pattanayek	10/30/2009
Barium	35	μg/L	2.5	5	M Pattanayek	10/30/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/30/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/30/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/30/2009
Cobalt	0.37J	μg/L	0.04	1	M Pattanayek	10/30/2009
Copper	0.80J	μg/L	0.38	1	M Pattanayek	10/30/2009
Lead	0.54J	μg/L	0.10	1	M Pattanayek	10/30/2009
Manganese	69	μg/L	0.42	1	M Pattanayek	10/30/2009
Nickel	1.4	μg/L	0.25	1	M Pattanayek	10/30/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/30/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/30/2009
Thallium	0.07J	μg/L	0.03	1	M Pattanayek	10/30/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/30/2009
Zinc	5.9	μg/L	1.9	5	M Pattanayek	10/30/2009

K00003058003

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.:

2B

Date/Time Collected:

EMORY001.9RO 10/29/2009 10:14

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

7.13

pH Units

Chlorine, residual:

**Field Determinations** 

Conductivity:

56

uMHO

Temperature:

12.86

**Dissolved Oxygen: 10.72** 

mg/L

Other:

pH:

Flow:

**CFS** 

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	A Bass	11/3/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003058004

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected:

10:25 10/29/2009

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 **TDEC-WPC** TDEC-WPC 11/09/2009

**Priority Date:** Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.11

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature:

58

13.16

**Dissolved Oxygen: 10.82** 

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	10/30/2009				M Pattanayek	10/30/2009	

TEST: ICP	T: ICP METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	340	μg/L	2.9	10	A Wilson	11/2/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	380	μg/L	6.4	10	M Pattanayek	10/30/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/30/2009
Arsenic	4.1J	μg/L	0.93	5	M Pattanayek	10/30/2009
Barium	41	μg/L	2.5	5	M Pattanayek	10/30/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/30/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/30/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/30/2009
Cobalt	0.44J	μg/L	0.04	1	M Pattanayek	10/30/2009
Copper	1.2	μg/L	0.38	1	M Pattanayek	10/30/2009
Lead	0.69J	μg/L	0.10	1	M Pattanayek	10/30/2009
Manganese	69	μg/L	0.42	1	M Pattanayek	10/30/2009
Nickel	1.6	μg/L	0.25	1	M Pattanayek	10/30/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/30/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/30/2009
Thallium	0.07J	μg/L	0.03	1	M Pattanayek	10/30/2009
Vanadium	3.8J	μg/L	3.4	5	M Pattanayek	10/30/2009
Zinc	3.1J	μg/L	1.9	5	M Pattanayek	10/30/2009

K00003058004

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

10:25

**Project Site No.:** 

Station No.: EMORY001.7RO

Date/Time Collected: Sampler's Name:

10/29/2009 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville TDEC-WPC 327.34-20

**Billing Code:** Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** 

11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

:Ha

7.11

pH Units

Chlorine, residual:

Conductivity:

58

uMHO

Temperature:

13.16

Dissolved Oxygen: 10.82

mg/L

Other:

Flow:

**CFS** 

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	A Bass	11/3/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003058005

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.:

EMORY000.1RO

**Date/Time Collected:** 

10/29/2009 10:35

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO: Sampling Agency: Water Knoxville

**Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **Priority Date:** 

TDEC-WPC TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.22

pH Units

uMHO

mg/L

Chlorine, residual:

Conductivity:

63

13.72 Temperature: Dissolved Oxygen: 11.24

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	10/30/2009				M Pattanayek	10/30/2009	

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	330	μg/L	2.9	10	A Wilson	11/2/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	390	μg/L	6.4	10	M Pattanayek	10/30/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/30/2009
Arsenic	4.8J	μg/L	0.93	5	M Pattanayek	10/30/2009
Barium	42	μg/L	2.5	5	M Pattanayek	10/30/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/30/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/30/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/30/2009
Cobalt	0.45J	μg/L	0.04	1	M Pattanayek	10/30/2009
Copper	1.2	μg/L	0.38	1	M Pattanayek	10/30/2009
Lead	0.74J	μg/L	0.10	1	M Pattanayek	10/30/2009
Manganese	67	μg/L	0.42	1	M Pattanayek	10/30/2009
Nickel	1.6	μg/L	0.25	1	M, Pattanayek	10/30/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/30/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/30/2009
Thallium	0.08J	μg/L	0.03	1	M Pattanayek	10/30/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/30/2009
Zinc	2.5J	μg/L	1.9	5	M Pattanayek	10/30/2009

K00003058005

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

Station No.:

EMORY000.1RO

Date/Time Collected:

10/29/2009 10:35

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** 

11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.22

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature:

63

13.72

Dissolved Oxygen: 11.24

mg/L

Other:

Flow:

CFS

TEST: Mercury	METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	11/3/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00003058006

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

**Station No.:** 

CLINC002.3RO

**Date/Time Collected:** Sampler's Name:

10/29/2009 10:56

County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-WPC

**Billing Code:** Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC 11/09/2009

**Priority Date:** Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.57

pH Units

Chlorine, residual:

Conductivity:

219

uMHO

Temperature:

14.42

Dissolved Oxygen: 9.71

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/30/2009				M Pattanayek	10/30/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	120	μg/L	2.9	10	A Wilson	11/2/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	110	µg/L	6.4	10	M Pattanayek	10/30/2009
Antimony	0.57J	μg/L	0.33	1	M Pattanayek	10/30/2009
Arsenic	2.2J	μg/L	0.93	5	M Pattanayek	10/30/2009
Barium	39	μg/L	2.5	5	M Pattanayek	10/30/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/30/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/30/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/30/2009
Cobalt	0.32J	μg/L	0.04	1	M Pattanayek	10/30/2009
Copper	0.45J	μg/L	0.38	1	M Pattanayek	10/30/2009
Lead	0.23J	μg/L	0.10	1	M Pattanayek	10/30/2009
Manganese	31	μg/L	0.42	1	M Pattanayek	10/30/2009
Nickel	1.4	μg/L	0.25	1	M Pattanayek	10/30/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/30/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/30/2009
Thallium	0.04J	μg/L	0.03	1	M Pattanayek	10/30/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/30/2009
Zinc	3.7J	μg/L	1.9	5	M Pattanayek	10/30/2009

K00003058006

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Clinch River mile 2.3

**Project Site No.:** 

Station No.:

CLINC002.3RO

Date/Time Collected:

10/29/2009 10:56

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO: Sampling Agency: Water Knoxville

**Billing Code:** Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009

12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.57

pH Units

Chlorine, residual:

Conductivity:

219

uMHO

Temperature:

14.42

**Dissolved Oxygen: 9.71** 

mg/L

Other:

Flow:

**CFS** 

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	A Bass	11/3/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

K00003058007

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

5A

Station No.:

KingAshOutF2

Date/Time Collected:

10/29/2009 11:05

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO:

Knoxville

Sampling Agency: **Billing Code:** 

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: **Priority Date:** 

TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009

12:00

Received By:

E McCrary

**Field Determinations** 

**Dissolved Oxygen: 11.13** 

Chlorine, residual:

Conductivity:

Temperature:

pH:

Other: Flow:

7.53

74

13.46

pH Units

uMHO

mg/L

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/30/2009	· · · · · · · · · · · · · · · · · · ·			M Pattanayek	10/30/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	310	μg/L	2.9	10	A Wilson	11/2/2009

TEST: ICP-MS	ME	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	440	µg/L	6.4	- 10	M Pattanayek	10/30/2009
Antimony	2.0	μg/L	0.33	1	M Pattanayek	10/30/2009
Arsenic	17	μg/L	0.93	5	M Pattanayek	10/30/2009
Barium	50	μg/L	2.5	5	M Pattanayek	10/30/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/30/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/30/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/30/2009
Cobalt	0.40J	μg/L	0.04	1	M Pattanayek	10/30/2009
Copper	2.2	μg/L	0.38	1	M Pattanayek	10/30/2009
Lead	0.66J	μg/L	0.10	1.	M Pattanayek	10/30/2009
Manganese	63	μg/L	0.42	1	M Pattanayek	10/30/2009
Nickel	1.6	μg/L	0.25	1	M Pattanayek	10/30/2009
Selenium	3.5J	μg/L	1.3	5	M Pattanayek	10/30/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/30/2009
Thallium	0.12J	μg/L	0.03	1	M Pattanayek	10/30/2009
Vanadium	14	μg/L	3.4	5	M Pattanayek	10/30/2009
Zinc	4.4J	μg/L	1.9	5	M Pattanayek	10/30/2009

K00003058007

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

5A

Station No.:

**Date/Time Collected:** 

KingAshOutF2 11:05

Sampler's Name:

10/29/2009 Geoff Klein

County:

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 **TDEC-WPC** 

Agency Invoiced: **Priority Date:** 

TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009

12:00

Received By:

E McCrary

TEST: Mercury METHOD: EPA 245.1							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	A Bass	11/3/2009	

**Field Determinations** 

Dissolved Oxygen: 11.13

Chlorine, residual:

Conductivity:

Temperature:

pH:

Other:

Flow:

7.53

74

13.46

pH Units

uMHO

mg/L

CFS

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Mercury

K00003058008

TVA-Ash Spill

**Project Name:** Sample Description:

**Field Determinations** 

Dissolved Oxygen: 9.31

Conductivity:

Temperature:

7.52

237

14.62

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

Sampler Project Name: TVA Ash Spill

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

**Project Site No.:** 

Station No.: CLINC004.5RO

Date/Time Collected:

10/29/2009 10:45

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:** Send Report To:

TDEC-WPC 327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:** 

11/09/2009

Date/Time Received:

10/29/2009

12:00

Received By:

E McCrary

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	10/30/2009				M Pattanayek	10/30/2009	

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	92	μg/L	2.9	10	A Wilson	11/2/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Aluminum	65	μg/L	6.4	10	M Pattanayek	10/30/2009		
Antimony	U	μg/L	0.33	1	M Pattanayek	10/30/2009		
Arsenic	υ	μg/L	0.93	- 5	M Pattanayek	10/30/2009		
Barium	36	μg/L	2.5	5	M Pattanayek	10/30/2009		
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/30/2009		
Cadmium	υ	μg/L	0.41	1	M Pattanayek	10/30/2009		
Chromium	U	μg/L	2.0	5	M Pattanayek	10/30/2009		
Cobalt	0.16J	μg/L	0.04	1	M Pattanayek	10/30/2009		
Copper	U	μg/L	0.38	1	M Pattanayek	10/30/2009		
Lead	0.16J	μg/L	0.10	1	M Pattanayek	10/30/2009		
Manganese	27	μg/L	0.42	1	M Pattanayek	10/30/2009		
Nickel	1.3	· µg/L	0.25	1	M Pattanayek	10/30/2009		
Selenium	υ	μg/L	1.3	5	M Pattanayek	10/30/2009		
Silver	υ	μg/L	0.03	0.25	M Pattanayek	10/30/2009		
Thallium	U	μg/L	0.03	1	M Pattanayek	10/30/2009		
Vanadium	· U	μg/L	3.4	5	M Pattanayek	10/30/2009		
Zinc	2.1J	μg/L	1.9	5	M Pattanayek	10/30/2009		

K00003058008

**Project Name:** 

TVA-Ash Spill

TVA-ASII SPIII

**Sample Description:** Clinch River m **Sampler Project Name:** TVA Ash Spill

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

10:45

12:00

Project Site No.:

6

6

CLINC004.5RO

Date/Time Collected:

10/29/2009

Sampler's Name: County:

Geoff Klein

Sample Matrix:

**Billing Code:** 

Station No.:

ROANE - 73 Water

EFO: Sampling Agency:

Send Report To:

Knoxville TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: Priority Date:

TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009

Received By:

TEST: Mercury
ANALYTE
Mercury

E McCrary

METHOD: EPA 245.1										
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE				
		ua/l	0.029	0.2	A Bass	11/3/2009				

**Field Determinations** 

Dissolved Oxygen: 9.31

Conductivity:

Temperature:

7.52

237

14.62

pH Units

**uMHO** 

mg/L

CFS

pH:

Other:

Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit



## STATE OF TENNESSEE **DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

**Greg Denton** 

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchlev TDEC-WPC

Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

K00003058 Lab ID:

**Knoxville Regional Laboratory** 

Sampling Agency: TDEC: Division of Water Pollution Control

**Billing Code:** 

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

K00003058001

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

**Station No.:** 

EMORY012.1RO

**Date/Time Collected:** 

10/29/2009 09:09

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73** 

EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** 

TDEC-WPC

**Send Report To:** 

327.34-20 TDEC-WPC

**Agency Invoiced: Priority Date:** 

TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.77

pH Units

Chlorine, residual:

Conductivity:

131

**uMHO** 

Temperature:

13.48 **Dissolved Oxygen: 11.68** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY: [					DATE
Total Alkalinity	18	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	21	mg/L	0.7	1	M Chen	11/2/2009	

TEST: Residue, Settleable	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	10/30/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	10/30/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00003058002

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

**Station No.:** 

EMORY002.1RO

**Date/Time Collected:** 

10/29/2009 09:58

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** 

11/09/2009

**Date/Time Received:** 

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** pH: 7.22

Chlorine, residual:

pH Units **uMHO** 

Conductivity:

Temperature:

56 13.03

Dissolved Oxygen: 11.18

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	14	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	M Chen	11/2/2009

TEST: Residue, Settleable	sidue, Settleable METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	mi/L	0.10	0.10	P Leathers	10/30/2009	

TEST: Residue, Suspended	METHOD: SM 2540D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	U	mg/L	10	10	A Peeples	10/30/2009	

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00003058003

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 1.9 at underwater weir

**Project Site No.:** 

Station No.:

EMORY001.9RO

**Date/Time Collected:** Sampler's Name:

10:14 10/29/2009

County:

Geoff Klein

Sample Matrix:

**ROANE - 73** 

EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** Send Report To: **TDEC-WPC** 327.34-20

**Agency Invoiced:** 

TDEC-WPC TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009

12:00

Received By:

**Priority Date:** 

E McCrary

**Field Determinations** 

:Ha

7.13

pH Units

Chlorine, residual:

Conductivity:

56

uMHO

Temperature:

12.86 **Dissolved Oxygen: 10.72** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	ME	METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	20	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	M Chen	11/2/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	10/30/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZI	ANALYZED BY:	BY: DATE
Total Suspended Solids	15	mg/L	10	10	A Peeples	10/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

K00003058004

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

**Project Site No.:** 

**Station No.:** 

EMORY001.7RO

**Date/Time Collected:** 

10/29/2009 10:25

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

**Agency Invoiced: Priority Date:** 

TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH: 7.11

Chlorine, residual:

Conductivity:

58

**uMHO** 

pH Units

Temperature:

13.16 **Dissolved Oxygen: 10.82** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	21	mg/L	3.8	10	M Chen	11/3/2009	

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	21	mg/L	0.7	1	M Chen	11/2/2009	

TEST: Residue, Settleable METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	10/30/2009

TEST: Residue, Suspended	ST: Residue, Suspended METHOD: SM 2540D							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Total Suspended Solids	19	mg/L	10	10	A Peeples	10/30/2009		

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00003058005

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 0.1

**Project Site No.:** 

**Station No.:** 

EMORY000.1RO

**Date/Time Collected:** 

10/29/2009 10:35

Sampler's Name: County:

Geoff Klein

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

**Billing Code: Send Report To:** 

327.34-20 **TDEC-WPC** 

Agency Invoiced: **Priority Date:** 

TDEC-WPC 11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.22

pH Units

Chlorine, residual:

Conductivity:

63

**uMHO** 

Temperature:

13.72 Dissolved Oxygen: 11.24

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	Alkalinity, Total METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	23	mg/L	3.8	10	M Chen	11/3/2009	

TEST: Hardness, Calcium	: Hardness, Calcium METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	22	mg/L	0.7	1	M Chen	11/2/2009	

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY:						
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	10/30/2009	

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	10/30/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00003058006

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Clinch River mile 2.3

**Project Site No.:** 

5

**Station No.:** 

CLINC002.3RO

Date/Time Collected:

10/29/2009 10:56

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73** 

EFO:

Water

**Sampling Agency:** 

Knoxville

**Billing Code:** 

TDEC-WPC

**Send Report To:** 

327.34-20 TDEC-WPC

**Agency Invoiced:** 

**TDEC-WPC** 

**Priority Date:** 

11/09/2009

**Date/Time Received:** 

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.57

pH Units

Chlorine, residual:

Conductivity:

219

uMHO

Temperature: 14.42

**Dissolved Oxygen: 9.71** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY:					DATE	
Total Alkalinity	110	mg/L	3.8	10	M Chen	11/3/2009	

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	MQL	ANALYZED BY:	DATE			
Calcium hardness	84	mg/L	0.7	1	M Chen	11/2/2009	

TEST: Residue, Settleable	METHOD: SM 2540F							
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY:					DATE		
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	10/30/2009		

TEST: Residue, Suspended	METHOD: SM 2540D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	U.	mg/L	10	10	A Peeples	10/30/2009	

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00003058007

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

**Project Site No.:** 

Sampler Project Name: TVA Ash Spill

5A

Station No.:

KingAshOutF2

Date/Time Collected:

10/29/2009 11:05

Sampler's Name: County:

Geoff Klein

**Sample Matrix:** 

**ROANE - 73** 

EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** 

TDEC-WPC

Send Report To:

327.34-20 **TDEC-WPC** TDEC-WPC

Agency Invoiced: **Priority Date:** 

11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

**Field Determinations** 

pH:

7.53

pH Units

Chlorine, residual:

Conductivity:

74

**uMHO** 

Temperature:

13.46 **Dissolved Oxygen: 11.13** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	ME.	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	24	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	27	mg/L	0.7	1	M Chen	11/2/2009	

TEST: Residue, Settleable	ME	METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	10/30/2009

TEST: Residue, Suspended	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	10	mg/L	10	.10	A Peeples	10/30/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00003058008

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

**Field Determinations** 

**Dissolved Oxygen: 9.31** 

Conductivity:

Temperature:

7.52

237

14.62

pH Units

uMHO

mg/L

**CFS** 

pH:

Other:

Flow:

**Project Site No.:** 

**Station No.:** 

**Date/Time Collected:** 

CLINC004.5RO

Sampler's Name:

10/29/2009 10:45

County:

Geoff Klein

**Sample Matrix:** 

**ROANE - 73** 

Water

EFO: Sampling Agency: Knoxville

**Billing Code:** 

TDEC-WPC

Send Report To: Agency Invoiced:

327.34-20 **TDEC-WPC** TDEC-WPC

**Priority Date:** 

11/09/2009

Date/Time Received:

10/29/2009 12:00

Received By:

E McCrary

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	120	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	98	mg/L	0.7	1	M Chen	11/2/2009

TEST: Residue, Settleable	MET	METHOD: SM 2540F				<u></u>	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	10/30/2009	

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	10/30/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit**